



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

fessor Dewey says, this proposition is not identical with the platitude that experience is experience, but has the significance of a method of philosophical analysis. If mediation is itself immediately experienced, the proper way to find out its nature is to observe its operations as they occur, instead of applying the mediation *ab extra*, as has been done so frequently in the past.

In brief, then, it would seem that if the function and content of concepts are not immediately experienced, we are back at the standpoint of Mill, and left to derive what comfort we can from the classification of a contradiction as an 'ultimate mystery.' On this ground, moreover, we seem compelled to choose between the alternatives offered by Professor Royce, viz., a validism of Mill's type, and a world which is the embodiment of an "absolute system of ideas." At all events, we can hardly be content to say merely that the real is always ideal. On the other hand, if mediation is directly experienced, there seems to be no ground for identifying the real with something beyond experience or with any particular kind of experience. One experience is then, to all appearances, as real as another.

In conclusion the reviewer may be allowed to say that since limitations of space do not permit comment upon the many excellent discussions contained in the book, the foregoing criticism may well seem disproportionate, in view of the many solid merits of the work. But disagreement, even though pretty fundamental, is entirely compatible with sincere respect and appreciation. Readers who remain unconvinced by the third part will nevertheless find the work one of distinct and unusual ability, a work that will abundantly repay a careful reading.

B. H. BODE

University of Illinois

Manual of Mental and Physical Tests. By GUY MONTROSE WHIPPLE, PH.D.
Baltimore, Warwick and York, 1910. pp. ix, 534.

This manual includes a description of the apparatus and method of administration of fifty-four tests or groups of tests, a series of accounts of the chief results obtained by those who have used them, and a corresponding series of bibliographies. There is also a summary of the formulæ and tables useful in calculating central tendencies, variabilities, reliabilities and correlations from the obtained measures.

Eighty pages are given to means of measuring height, weight, head-shape and size, breathing capacity, and muscular strength, speed, precision and steadiness. The next ninety pages concern tests of sensory capacity. Under the headings 'Tests of Attention and Perception' and 'Tests of Description and Report,' we have, in the next ninety pages, carefully elaborated forms of tests in perceiving letters, words, etc., exposed by the tachistoscope, in cancelling words, letters, etc., printed amongst others, in counting dots, in reading, in adding a one place number to three given numbers in succession, in simultaneous reading and writing, and in describing and passing a detailed examination upon objects. A fourth portion of the same length covers tests of association (thinking of a word, of a word to fulfill certain requirements, and of the facts needed for simple computations), learning (to copy drawings seen in a mirror and to translate certain characters into numbers with the aid of a 'dictionary' printed on the blank), and memory (of series of digits, letters and words, and of passages). Finally, in somewhat over a hundred pages we find tests of suggestibility, imagination, invention, intellectual equipment, and developmental diagnosis. These include, often in improved forms, the size-weight illusion, Binet's other tests for suggestibility, tests of the effect of suggested warmth, Dearborn's ink-blot test, the familiar school tasks of including given words in a sentence, completing sentences and writing compositions, word-building from given letters, the Ebbinghaus 'Combination' test, Swift's interpretation of fables, Kirkpatrick's test of knowledge of the meaning of words,

Whipple's test of range of information and the De Sanctis and Binet-Simon tests of intelligence.

The tests have been chosen on the basis of thorough knowledge of the work that has been done in the field and with due appreciation of the uses to which they will be put. Although probably no student of the subject will agree with Mr. Whipple's selections in every case, all will admire their general worth and timeliness. And those who find the most to disagree with will perhaps appreciate their general worth most fully. Any one who plans to measure intellectual abilities of whatever sort, should as a first step become familiar with the tests recommended in this Manual.

The chief desiderata in means of measuring mental traits are that something of importance be measured, that the resulting quantity be objective or verifiable by any competent observer, that the precision or freedom from variable error attainable from a given expenditure of a subject's time be reasonably great, that the time and energy of the experimenter be economized, and that the results be commensurate with those hitherto obtained in measurements of the mental trait in question. There results a balance of goods in the selection or invention of a test in the case of almost every mental trait. Consequently, a practically infinite amount of ingenuity can be expended in devising tests to satisfy best these desiderata. A standard test, in the sense of an unimprovable one, probably does not now, and will not for a long time, exist in the case of any mental trait.

Professor Whipple has all these facts in mind, but, I think, in two ways does not quite maintain the most serviceable balance amongst them. In some cases he perhaps imposes too great a burden upon the experimenter in order to make too slight a gain in objectivity, precision or comparability with previous work. He is also too modest in recommending a test which happens to have been used by some one a few times, instead of devising a far better one himself. For example, counting dots (Test 27), adding a given number, say 3, in succession to three numbers and continuing with the sums thus obtained (Test 29), amenability to oral suggestions from the experimenter (Test 43), and the interpretation of fables (Test 49) have been very seldom used and could easily be very much improved.

The very difficult task of giving instructions in the administration of all these tests is well done. Often the desirable plan of printing exactly what the experimenter shall say is followed. A mass of minor information hitherto acquired at great cost of time by imitation, can thus be put into the student's hands once for all. If mental measurements are to be made by others than trained experts, such detailed instructions (possibly even still more detailed and rigorous instructions) must be accessible in print.

It would have been a great addition to the usefulness of the manual if Mr. Whipple had given approximate measures of the number of trials with each test necessary to secure a given degree of reliability. For individual diagnosis and prognosis, for measurements of change and for measurements of the relations between mental abilities, it is of very great importance to reduce the unreliability of the average or median ability found for an individual to a small per cent. Investigators commonly err by dispersing their time over too many individuals, not measuring each one precisely enough to allow straightforward inferences about anything save group averages.

Where the author does announce the number of trials to be made, I fear that he gives too few. For example, in measurements of the delicacy of sensory discrimination, he commonly requires, after a brief preliminary series, only ten judgments with the difference chosen, ten with one a little greater and ten with one a little less. It would seem that if sensory discrimination is to be measured by the per cent. of right judgments, at least fifty judgments of a given difference should be taken. If only ten are to

be taken, an arrangement to use the average error made by the subject seems preferable in many cases.

I may note also that to give only differences and permit only judgments of more . . . or less . . . relieves the experimenter from very annoying elements in the latter calculations and on the whole seems better than to allow judgments of 'equal.' The author's instructions vary on this point.

The chapter on statistical methods gives the standard formulæ with illustrations of their calculation. It is made specially useful by including the later short methods of calculating correlations. I regret that the author accepts Pearson's speculative assumption that to compare the variabilities of two series each gross variability should be divided by the corresponding central tendency. No one method of rendering the variabilities of the same group in different traits or different groups in the same trait comparable is universally valid, and certainly not the method of dividing by the central tendency. Dividing by the square root of the central tendency will be more often and more nearly right.

The summaries of work done and the bibliographies accompanying them represent a scholarly heroism all of whose sins of commission and omission will readily be pardoned by any one who has tried to do the like. The only serious fault, I think, is in quoting as measures of correlations, figures got before the effect of the variable errors of the original deviation-measures in reducing the obtained correlation from the true correlation toward zero had been discovered by Spearman. The obtained correlations of Aikins, Thorndike and Hubbell and Wissler were thus necessarily far too low. Mr. Whipple's interest in the generally neglected subject of correlations also leads him to mislead the ordinary reader by quoting resemblances of related individuals in the same trait along with the resemblances of a person's degree of ability in one trait to his ability in another. The former should be carefully explained if quoted at all in such connection.

It is to be hoped that this book and the reports that are being issued by the American Psychological Association's committee on tests will be studied and used by every investigator of human intellectual performance here and abroad. The earlier expectations from tests of human faculty on the basis of the faculty psychology, being too great, were destined to disappointment, but now that the complexity, variability and relative independence of mental functions are being understood and allowed for, we may hope for a revival of interest in inventories of individual intellects, in measuring the changes which they undergo by growth and training, and the causes of their original capacities. If Professor Whipple's work did nothing more than stimulate other investigators to measure the reliability of his tests, their susceptibility to practice effect and their value as symptoms of more general conditions, and so to amend or even replace them, it would have abundantly justified itself. It will do much more than this.

E. L. THORNDIKE

Teachers College, Columbia University

The Phenomenology of Mind, by G. W. F. HEGEL. Edited, with an introduction and notes, by J. B. Baillie. London, Swan Sonnenschein & Co., 1910. 2 volumes. Vol. i, pp. xlv., 427; vol. ii, pp. viii., 429-823.

In Professor J. B. Baillie's recent translation we have now before us Hegel's *Phänomenologie des Geistes* in an adequate English dress. The Teuton has so far failed to make anything worth while out of this unique intellectual product from a fellow-member of his race. It is now handed over to a more distant relative, but perhaps none the less close still to the central intellectual tendencies of the Germanic races for the *rapport* necessary to its understanding, in a form to make it more readily accessible, and so to give the Anglo-Saxon a turn at its interpretation. As is, in part, implied in these two sentences, we shall probably have to approach the translation,